Ebola in West Africa: who pays for what in the outbreak?

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The Ebola virus disease (EVD) outbreak, firstly reported in Guinea by World Health Organization (WHO) on 25th March, 2014, continues to rage in West Africa, representing the largest and most complex Ebola epidemic in history. As of January 12th, 2015, 21,206 cases were reported with 8,386 deaths (39.5% overall mortality); the outbreak primarily affects three countries (core countries): Guinea, Liberia and Sierra Leone, which contributed to almost all (99.8%) of all reported cases, with a limited number of secondary cases in Mali, Nigeria, Senegal, Spain, United States (CDC, 2015). The core countries are among the poorest countries in the world, but in the most recent years despite their post-conflict fragility after decades of civil wars and poor social conditions, they had been growing up until the first half of 2014. After the first official report of late March 2014 from WHO, the outbreak was considered self-limited, like other EVD outbreaks in the last decades which were restricted in size and geographic spread, typically affecting a handful to a few hundred people in rural settings in Central Africa; meanwhile the epidemic had continued to spread mainly in rural areas on the borders among the three countries then, given the weak local health systems and the mobility of people in the region, the virus has spread quickly (with a reproduction number, R_0, close to 2) and across a large territory also in the main metropolitan areas soon overwhelming fragile health care systems which were unable to contain the epidemic and which escalated to higher numbers in late July when the International attention raised (WHO, 2014).

Ebola continues to spread in new communities in the region but the rate of infection has slowed down at least in Guinea and Liberia, while no clear of slowing epidemic are still evident in Sierra Leone. Ebola became epidemic in Guinea, Liberia, and Sierra Leone in large part because the health systems in place were struggling to deal with routine care, let alone a deadly outbreak (Kieny *et al*., 2014).

EVD outbreak deeply socio-economic impacted the core countries with a sharp disruption of economic activities across sectors. The largest economic effects of the crisis are not the direct costs (mortality, morbidity, caregiving, and the associated losses of working days), but rather those resulting from changes in behaviour - driven by fear - which have resulted in generally lower demands for goods and services and consequently lower domestic income and employment (UNDP, 2014). EVD has severely impacted economy in affected countries across all sectors of employment, with a large percentages of those in wage employment either asked to stay at home or to have lost their positions; those involved in self-employment activities have seen their business fall as markets are closed, customers attitude changed and travel restrictions disrupts supply. As a result, all sectors such as tourism, agriculture, road construction, crafting, mining, diesel sales, tax collections are significantly down, with loss of billions of dollars and bad forecasting for an already impoverished region (UNDP, 2014).

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GDF growth estimates for 2014 have been sharply revised downward since pre-crisis estimates, accounting for a 2.2% increase (vs. 5.9% before the crisis) in Liberia, 4.0% (vs. 11.3%) in Sierra Leone and 0.5% (vs. 4.5%) in Guinea. Investor aversion takes a further toll, which imply forgone income across the three countries in 2014–15 of well over $2 billion (over $250 million for Liberia, about $1.3 billion for Sierra Leone and roughly $800 million for Guinea). Combining the effects on revenue and spending with cuts made to public investment to finance the response, the total fiscal impact is well over half a billion dollars in 2014 alone. (World Bank, 2014b).

The World Bank Group presented these data in November 2014, estimating the short and Medium Term economic impact of the EBV epidemic for core countries, under two opposite scenarios of "Low Ebola" epidemic corresponding to rapid containment within the core countries, and "High Ebola" corresponding to slower containment in the core countries, with likely broader regional contagion. The updated report published on 2 Dec 2014, estimated that two-year regional financial impact could range from a "Low Ebola" estimate of $3.8 billion to a "High Ebola" estimate of $32.6 billion (World Bank, 2014a; World Bank, 2014b).

Containment, combined with a complete financial recovery effort to restart business activity and bring back investors, are therefore urgently needed for the region to control the epidemic and to improve economic situation in order to strengthen health systems and infrastructure in affected countries.

Even if it is unlikely that the Ebola epidemic in West Africa will become a global health threat, the affected countries are not the only economically touched by the outbreak.

Since affected countries were not able to contain the outbreak given their economic situation, starting from July 2014 the supporting international response to the outbreak have mounted, according to most with avoidable delay, by bringing funds to the core countries and specific agencies in order to supply the costs to face the consequences of the epidemic, strengthening the containment of outbreak through tracing infected people and adopt safe and dignified burials procedures, improving health management of diseased, supporting health systems, training, as well as providing technical, scientific, and logistics helps to improve the preparedness and sustainability of control in the affected countries.

In the Dec 22nd 2014 report from UN, the total available resources across governments, agencies, and organizations for Ebola response accounted for $1.2 billion raised against the UN appeal for immediate response needs in the three affected countries for Oct 2014 – Mar 2015 of $1.5 billion. A grand total of $4.3 billion (including the $1.2 billion raised against the UN appeal) has been announced for the Ebola response from governments (almost two-third of the entire amount) and financial institutions and other private organization including direct bilateral support (in kind and in cash) as well as resources for economic stability (to strengthen the fiscal ability of affected countries through i.e. credit facilities, loans and budget support), of which 44% already been disbursed (UNMEER, 2015).

This epidemic won't be over soon, but that is even more reason to focus on what works. Liberia, Guinea, and Sierra Leone all need more money, more health-care workers, and more troops to help coordinate relief efforts. But despite the tremendous challenges and human suffering that Ebola has engendered in Guinea, Liberia, and Sierra Leone, this crisis is also revealing itself to be a catalyst for the great need of change in our approach to global health.

Only a resilient health system, able to absorb the shock of an emergency like Ebola and at the same time continue to provide regular health services would able to control this and future outbreak in the area, and substantial external financing will be needed, with durable gains associated with building locally and internationally a functional coordinated global health system able to face global outbreaks (Kieny *et al.*, 2015).

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